

ELECTRIC EXERCISE MACHINE FOR TILTING AND INVERTING HUMAN BODY

BACKGROUND OF THE INVENTION

5 1. Field of the Invention

The present invention relates generally to exercise machines, and more particularly to an electric exercise machine for tilting and inverting human body.

2. Description of the Related Art

A conventional exercise machine for tilting and inverting human body is
10 operated to tilt and invert the user's body for exercise. When the exercise machine is operated, the user has to turn the lying body to an inversive position by gravity or an auxiliary device, and after the exercise, the user also has to turn the body to a normal position by the auxiliary device or other people's assistance. Hence, the aforementioned conventional exercise machine is defective by that the user has to operate the exercise
15 machine by extra efforts or other people's assistance; in addition, the machine can be operated at few angles only and fails to offer programmed trainings.

SUMMARY OF THE INVENTION

The primary objective of the present invention is to provide an electric exercise
20 machine for tilting and inverting human body, which can be electrically controlled by the user to turn to a predetermined angle to be conveniently and laborsavingly operated by the user.

The other objective of the present invention is to provide an electric exercise machine for tilting and inverting human body, which can be positioned at multiple
25 angles to accommodate the user's demands for exercise.

Another objective of the present invention is to provide an electric exercise machine for tilting and inverting human body, which operation can be programmed to offer flexible and diversified trainings.

The foregoing objectives of the present invention are attained by the electric exercise machine that is composed of a support member to be mounted on a floor, a rotatable frame rotatably mounted to a top of the support member for supporting a user, a driving device mounted on the support member and having an electric motor for driving the rotatable frame to turn, and a controller for activating the motor of the driving device to run to enable the rotatable frame to turn to a predetermined angle.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side view of a preferred embodiment of the present invention; and

FIG. 2 is an elevational view of the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGS. 1-2, an electric exercise machine for tilting and inverting human body constructed according to a preferred embodiment of the present invention is composed of a support member 10, a rotatable frame 20, a driving device 30, and a controller 40.

The support member 10 is made of metal elements and is formed of two U-shaped struts 12, each of which has two straight rods pivotably connected with the other two straight rods at top ends thereof. A pivoting tube 16 is transversally fixed to the top end of one of the straight rods. Two linkages 18 are respectively fixedly mounted to two external sides of the straight rods of the two U-shaped struts 12 to

enable the support member 10 to be triangular, such that the support member 10 can be firmly mounted on the floor.

The rotatable frame 20 is rotatably mounted at the connected top ends of the U-shaped struts 12, including a carrier 22 for supporting the user's weight and two
5 ankle holders 24 for holding the user's feet. A rotation shaft 26 is fixed to a side of the rotatable frame 20 and is inserted through the pivoting tube 16 of the support member 10.

The driving device 30 is mounted on an outside of the support member 10 corresponding to a distal end of the pivoting tube 16, including a fixed plate 32 fastened
10 to the outside of the support member 10, an alternating current motor 34 fastened to an external side of the fixed plate 32, a transmission gear 36 fastened to the external side of the fixed plate 32 and having an input end and an output end, a worm 37 fixed with the output end of the transmission gear 36, and a worm gear 38. The motor 34 has a shaft (not shown) directly driving the input end of the transmission gear 36 to transfer the
15 output of the rotation thereof to the worm 37 by reduction and multiple-force. The worm gear 38 is coaxially fixed to an external end of the rotatable shaft 26 and firmly engages the worm 37. A shell 39 is mounted around the motor 34, the transmission gear 36, the worm 37, and the worm gear 38, indicated by an imaginary line in FIGS. 1-2 in order to show the internal structure of the driving device 30.

20 The controller 40 is electrically connected with the motor 34 of the driving device 30 via wires, including a circuit board (not shown) inside and a control button 42 at a surface thereof. The user can manually control the controller 40 to manipulate the driving device 30 and to ahead program the direction of rotation, angle, and revolving stroke for the driving device 30.

25 In conclusion, the present invention includes three advantages as follows.

1. When the user does exercise on the rotatable frame 20, it's free to hold the controller 40 to manipulate the driving device 30 to drive the rotatable frame 20 to turn to a demanded angle. When the user finishes the exercise to return to the normal position, it's easy to drive the rotatable frame 20 to turn back to the original angle by the controller 40 and requires none of extra efforts or other people's assistance.

2. The controller 40 has the aforementioned circuitry to directly manipulate the alternating current motor 34 of the driving device 30 to drive the worm gear 38 to rotate in a predetermined direction and angle, further driving the rotatable frame 20 to rotate in different directions and to be positioned at multiple angles, which are embodied as twelve angles.

3. The controller 40 has the aforementioned circuitry to enable the rotatable frame 20 to have programmed rotations according to the user's demands, such that the user can do exercise freely and flexibly. For example, the rotatable frame 20 can be programmed to decline at a predetermined angle towards the user's head every interval of time until the user's body is entirely inverted and then to return to the original angle at a predetermined speed.